

STUDIES ON NEOTROPICAL POMPILIDAE
(HYMENOPTERA)
II. GENUS *ARIDESTUS* BANKS*

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Banks (1947, Bull. Mus. Comp. Zool., 99: 432) based the genus *Aridestus* on a single female from Paraguay. This specimen was identified as "*bergi* Brèthes" although in fact *bergi* is a Holmberg species, described in 1881 from a single female from the province of Buenos Aires, Argentina. I have before me fifteen females and six males which I consider to be congeneric with *bergi*, and it seems appropriate to present a fuller description of the genus *Aridestus* on the basis of this additional material.

In his generic description, Banks emphasized the transverse striae on the propodeum. As a matter of fact these striae are absent in the male *bergi* and in both sexes of a Chilean species which is exceedingly similar to *bergi* in all other respects, including the male terminalia. I therefore find it desirable to define *Aridestus* somewhat differently than did Banks. I consider *Evagetes*, *Aridestus*, and the African genus *Asthenoctenidia* Pate (= *Asthenoctenus* Arnold) to form a closely knit generic complex characterized by the thickened and slightly flattened antennae, by the reduced pulvillar pad and comb, by having the clypeus no wider than the lower front, and by several other common features. *Evagetes* is known to be a clepto-parasite of other Pompilini, and it seems to me very likely that the other two genera behave similarly.

The known species of *Aridestus* are black with the abdomen mostly or entirely red, and they are especially similar to those species of *Evagetes* having the abdomen partly rufous and the pronotum subangulate behind (e.g. *crassicornis* Shuckard). The species of *Aridestus* differ in having the clypeus, front, and vertex narrow, the middle interocular distance not exceeding .58 times the transfacial distance in either sex, the clypeus not more than 2.5 times as wide as high in the female, 2.2 times as wide as high in the male. The pronotum is also short medially and in the female somewhat swollen anterolaterally, there is an unusually distinct median groove on the front, and the marginal cell is far removed from the wing-tip (at least

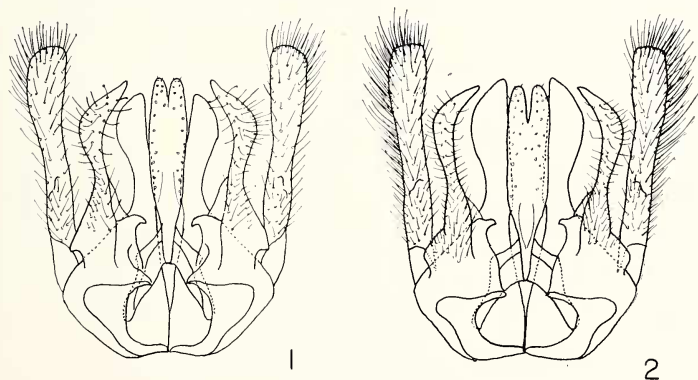
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by 1.6 times its own length). From *Asthenoctenidia*, *Aridestus* differs in having a much shorter and more angulate pronotum as well as a complete postnotum which is at least nearly half the length of the metanotum. The male terminalia of the three genera show only minor differences.

As noted above, the citation of the type species of *Aridestus* should be corrected to read: *Pompilus bergi* Holmberg, 1881 (monobasic). The following is a redescription of the genus.

Small wasps, 5-12 mm in length; known species black with abdomen rufous except often fuscous at extreme base and apex (apical fourth sometimes fuscous in males); males usually with an interrupted pale yellow band along the posterior margin of the pronotum and always with the apical abdominal tergite in large part pale yellow or whitish. Mandibles with a single tooth on the inner margin; clypeus truncate, its width equal to or slightly less than the lower interocular distance; front narrow, middle interocular distance not exceeding .58 times transfacial distance; front with a median linear impression from the antennal bases to the anterior ocellus; vertex passing nearly straight across between tops of eyes. Antennae short and in the female slightly incrassate, the flagellar segments somewhat flattened on the outer surface; third antennal segment in the female 2.5-3.5 times as long as thick, .50-.65 times upper interocular distance; third antennal segment in male shorter than fourth segment, 1.4-1.9 times as long as thick; apical antennal segment of male obliquely truncate at tip. Pronotum along midline very much shorter than mesoscutum, in the female somewhat bulging anterolaterally; posterior margin broadly subangulate or subarcuate; post-



Figs. 1 and 2. Male genitalia of species of *Aridestus*, ventral aspect. Fig. 1. *A. bergi* (Holmberg). Fig. 2. *A. jaffueli* (Herbst).

notum a complete transverse band at least nearly half as long as the metanotum; propodeum relatively short and strongly convex, with the median line impressed basally, the posterior slope with or without transverse rugae. Middle and hind tibiae with sparse but fairly strong spines above; front tibiae not at all spined above; female with a strong tarsal comb, the spines very long and slender, the apical basitarsal spine longer than the second segment; apical tarsal segments at least weakly spined beneath in the females; claws slender, dentate except inner claws of front tarsi of males strongly curved, somewhat bifid, this tarsal segment weakly lobed on the inner margin; pulvillar pad very small, giving rise to 2-6 minute setae. Wing venation essentially as in *Evagetes* (see Evans, 1950, Trans. Amer. Ent. Soc., 75: 162, Figs. 12, 13); marginal cell 1.6-2.1 times its own length from the wing tip; second and third submarginal cells small, both narrowed above. Male subgenital plate simple, its sides tapering to a broadly rounded or subtruncate apex; male genitalia with the basal hooklets single, the aedeagus simple, bearing a few minute apical setae; parameres fairly broad, strongly setose (Figs. 1, 2).

Key to species

Females

1. Propodeum without transverse rugae; inner orbits more strongly convergent at the top, upper interocular distance .84-.90 times lower interocular (Chile, Patagonia) 3. *jaffueli* (Herbst)
Propodeum with fairly strong transverse rugae; upper interocular distance .93-1.00 times lower interocular 2
2. Transverse rugae reaching the extreme side margins of the propodeum; pubescence of head and thorax wholly dark; scape, head, and front coxae with rather strong dark setae; length 12 mm (Peru) 2. *porteri* n. sp.
Transverse rugae stopping well short of side margins of propodeum; pubescence silvery at least on the clypeus, parts of the front, coxae, thoracic pleura, and propodeum, often extensively silvery; front coxae without dark setae, scape with at most a few setae; length 5.7-9.0 mm (northern Argentina, Paraguay, southern Brazil) 1. *bergi* (Holmberg)

Males

Abdomen more or less fuscous beyond the fourth segment; clypeus and scape with only a few setae; inner orbits divergent above, upper interocular distance 1.13-1.20 times lower interocular;

parapenial lobes shorter than aedoeagus and digiti (Fig. 1)
 1. *bergi* (Holmberg)

Abdomen almost wholly rufous, the subgenital plate contrastingly black; clypeus and scape with rather dense, black setae; inner orbits subparallel, upper interocular distance 1.00-1.05 times lower interocular; parapenial lobes large, slightly exceeding aedoeagus and digiti (Fig. 2) 2. *jaffueli* (Herbst)

1. *Aridestus bergi* (Holmberg)

Pompilus bergii Holmberg, 1881, Anales Soc. Cient. Argentina, 12: 142.
 [Type: ♀, ARGENTINA: Prov. Buenos Aires (C. Berg) (Mus. Arg. Cienc. Nat.)].

Aridestus bergi Banks, 1947, Bull. Mus. Comp. Zool. Harvard, 99: 432.

Female. — Length 5.7-9.0 mm; fore wing 5.0-7.0 mm. Head and thorax black, the pubescence silvery at least on the clypeus, lower front, anterior and posterior parts of the pronotum, parts of the pleura and leg-bases, and posterior slope of the propodeum, often almost wholly silvery-sericeous, the band along the pronotal margin especially heavy; abdomen rufous except black at extreme base, apex sometimes weakly infuscated, wholly covered with fine, pale pubescence; wings subhyaline or lightly infuscated, with a broad darker band along the outer margin of the fore wing. Temples and propleura with some erect hairs, body otherwise barely hairy except for dark hairs on the clypeus, front, vertex, and scape in occasional specimens. Clypeus 2.1-2.4 times as wide as high, truncate or slightly concave apically. Front narrow, middle interocular distance .52-.58 times transfacial distance; upper interocular distance .95-1.00 times lower interocular; POL subequal to or slightly exceeding OOL. Third antennal segment 2.8-3.5 times as long as thick, equal to .50-.63 times upper interocular distance. Posterior slope of propodeum with transverse rugae, but the rugae not nearly reaching the extreme lateral margins. Front basitarsus with three comb-spines, the basal one usually shorter than the others. Third submarginal cell triangular or subtriangular.

Male. — Length 5.5-6.0 mm; fore wing 4.8-5.1 mm. Head and thorax black except posterior margin of pronotum with a pale band; abdomen rufous except extreme base black, fifth and sixth segments fuscous, apical tergite whitish; body very extensively clothed with silvery pubescence, the pubescence dark on the vertex, most of the mesoscutum and scutellar disc, and base of the fifth abdominal segment; wings hyaline, with a broad brownish band along the outer margin of the fore wing. Temples and propleura with abundant pale hairs; scape, front, and vertex with short, dark setae. Clypeus

2.0 times as wide as high. Front narrow, middle interocular distance .55-.57 times transfacial distance; middle interocular distance 1.25-1.30 times lower interocular distance, upper interocular distance 1.13-1.20 times lower. POL:OOL about as 6:5. Third antennal segment 1.5-1.9 times as long as thick, sometimes barely shorter than fourth segment. Subgenital plate roundly elevated medially; genitalia as shown in Fig. 1.

Distribution. — Northern Argentina, Paraguay, southern Brazil.

Specimens examined. — 10 ♀♀, 4 ♂♂. ARGENTINA: 1 ♀, Volcan, Jujuy, 2500 meters, 4 Dec. 1964 (C. C. Porter) [MCZ]. PARAGUAY: 1 ♀, Villa Rica (F. Schade) [MCZ]. BRAZIL: 8 ♀♀, 4 ♂♂, Nova Teutonia, Santa Catarina, Oct.—March (F. Plaumann) [MCZ, Coll. G. R. Ferguson].

Remarks. — The specimen from Jujuy is from a considerably higher altitude from the others, and is the only female studied which has black hairs on the scape and on the front and vertex; this specimen also has the pale pubescence somewhat reduced, that on the front tending to form streaks along the sides and along the median sulcus, as in the Chilean species *jaffueli*. With respect to pubescence and pilosity, this specimen seems to occupy an intermediate position among the three species (as it does geographically), but in all structural characters it agrees very well with specimens of *bergi* from lower and more easterly localities.

2. *Aridestus porteri* new species

Holotype. — ♀, PERU: Cuzco, 3800 meters, Sept. 20—Oct. 2, 1964 (C. C. Porter) [MCZ, No. 31,182].

Description of female type. — Length 12 mm; fore wing 9 mm. Head and thorax black, rendered somewhat bluish by the wholly dark pubescence; abdomen rufous, only the extreme base of the first segment and extreme tip of the apical segment infuscated; wings fuscous, violaceous, fore wing distinctly darker in a broad band along the outer margin. Head rather densely dark-haired, including the scape; propleura hairy; pronotum, front coxae, and lower part of mesopleura (in front of middle coxae) with a few dark setae. Clypeus 2.2 times as wide as high. Front of moderate breadth, middle interocular distance .58 times transfacial distance; upper interocular distance .93 times lower interocular; POL and OOL subequal. Third antennal segment 3.0 times as long as thick, equal to .56 times upper interocular distance. Transverse rugae of propodeum strong, the more posterior ones extending all the way to the ridge separating the propodeum from the metapleura. Fore basitarsus with

three long comb-spines and a shorter one basad of these. Marginal cell removed from wing tip by a distance equal to 1.85 times the length of the marginal cell; third submarginal cell narrowed by three-fourths above, but not triangular.

Remarks. — This large and well characterized species is known only from the type. It was collected at the same time and place as a long series of *Pompilus (Arachnospila) dichromorphus* (Rohwer), to which it bears a strong superficial resemblance.

3. *Aridestus jaffueli* (Herbst) new combination

Pompilus jaffueli Herbst, 1923, Revista Chilena Hist. Nat., 25: 150. [Type: ♀, CHILE: Marga Marga, Prov. Valparaiso, Jan. 15, 1919 (F. Jaffuel) (MCZ, No. 17,184)].

Female. — Length 7-9 mm; fore wing 6-7 mm. Head and thorax black, the dorsum rendered somewhat bluish by the pubescence, with an extensive pattern of silvery pubescence as follows: sides of clypeus, a streak along the inner orbits and also up the median frontal sulcus, temples, all coxae, propleura, pronotum anteriorly and along the posterior margin, posterior margin of mesoscutum, sides of scutellum, metanotum, and most of the propodeum and pleura; abdomen rufous, extreme tip sometimes infuscated, clothed with fine, pale pubescence; wings lightly infuscated, with a broad darker band along the outer margin of the fore wing. Front with short, dark hairs; clypeus and scape with a few hairs; temples and propleura clothed with pale hairs. Clypeus 2.3-2.5 times as wide as high, truncate apically. Front narrow, middle interocular distance .53-.55 times transfacial distance; upper interocular distance .84-.90 times lower interocular, the inner orbits thus somewhat more distinctly convergent above than in *bergi*. POL subequal to or slightly exceeding OOL. Third antennal segment 2.5-3.0 times as long as thick, equal to .55-.64 times upper interocular distance. Median impression of propodeum nearly complete, the propodeum completely without transverse rugae. Front basitarsus with three strong comb-spines, sometimes with a weak fourth spine basad of these. Third submarginal cell subtriangular.

Male. — Length 5.0-7.5 mm; fore wing 4.2-6.0 mm. Coloration of body, wings, and pubescence much as in the female except for the usual pale yellow markings on the pronotum and tip of the abdomen; abdomen almost wholly rufous and covered with a fine, pale pubescence; subgenital plate black; scape with some dark hairs beneath, clypeus, front, and vertex also more conspicuously hairy than in the female. Clypeus 2.1-2.2 times as wide as high. Front narrow, middle interocular distance .56 times transfacial distance; middle interocular distance 1.15-1.20 times lower interocular; upper

interocular 1.00-1.05 times lower. POL:OOL about as 4:3. Third antennal segment 1.4-1.6 times as long as thick. Subgenital plate with a strong median keel; genitalia differing from those of *bergi* only in having more heavily setose parameres, a more deeply cleft aedoeagus, and slightly longer and broader parapenial lobes (Fig. 2).

Distribution. — Central Chile, Patagonia.

Specimens examined. — 4 ♀♀, 2 ♂♂. CHILE: 1 ♀, 1 ♂, Marga Marga, Prov. Valparaiso, Jan. 15, 1919 (F. Jaffuel) [type and allotype, MCZ]; 1 ♀, 1 ♂, Valle los Piuquenes, Rio Blanco, Prov. Aconcagua, Feb. 7-12, 1964 (L. Peña) [MCZ]; 1 ♀, Pichinahuel, Prov. Arauco, 1400 meters, Jan. 31, 1954 (L. Peña) [Coll. G. R. Ferguson]. ARGENTINA: 1 ♀, Chubut, Patagonia (W. F. H. Rosenberg) [USNM].

Remarks. — The close similarity of the male genitalia of *jaffueli* and *bergi* indicates conclusively that the presence or absence of rugae on the female propodeum should not be regarded as a generic character. The description and drawing of the genitalia of *jaffueli* were made from the specimen from Valle los Piuquenes. The genitalia of the allotype were extracted some years ago by R. R. Dreisbach, but the slide which he prepared contains only a broken fragment of the subgenital plate, the genitalia presumably having been lost.